Locally not Cost Effective Water Conservation Programs and Measures

For the purposes of the 2014 IRWM Drought solicitation application, "not locally cost-effective" shall mean the present value of the local benefits of implementing a water conservation program or measure is less than the present value of the local costs of implementing that program or measure. This definition is consistent with CWC Section 10631.5 (a)(4)(B).

Lost Hills Utility District

The LHUD project is not locally cost effective since the potential arsenic treatment cost savings of $39,000 per year in comparison to the capital outlay for the new tank and additional well of $2,467,200 dollars, is not a locally cost effective measure. On an annual basis the arsenic treatment costs $39,000 dollars, which may be saved once the new tank and well are operational. The benefits from the project are to provide a DAC Community with a reliable source of water, improved system reliability, and operational flexibility along with the energy savings. The Project will reduce or maintain control of treatment costs during operations and continue to allow LHUD to maintain reasonable water rates in the disadvantaged community.

City of McFarland

The City of McFarland has identified several not locally cost effective water conservation measures, which are listed here and described in *Attachment 2* under 'Water Conservation Measures'.

Identified by the City is the implementation of a two-pronged water conservation program, to be applied on a city wide basis, and energy conservation.

Public Outreach and Water Conservation Education - The estimated annual cost to send flyers out to all property owners within the water system service area is approximately $5,410.00. The cost breakdown for preparing and distributing flyers is shown in Table 1.

Table 1 – Water Conservation Education Flyer Cost Estimate

	QTY	UNIT TYPE	UNIT COST	TOTAL
Water Conservation Flyers	2,600	E	$1.10	$2,860.00
Envelopes	6	500	$46.00	$276.00
Postage	2,600	D	$0.49	$1,274.00
Graphic Design	1	L	$1,000.00	$1,000.00
			TOTAL	$5,410.00

Sending out water conservation education flyers is not locally cost effective as the City will not realize any significant monetary benefits as a result of conservation measures taken by property owners as a result of the flyers over the life of the project.

Water Loss Control - In addition to sending out water conservation education flyers to all property owners, the City will also implement a water loss control program, annual cost is $63,960.

Table 2 – Water Loss Control Program Cost Estimate

	QTY	UNIT TYPE	UNIT COST	TOTAL
Record Well Flow Meter Readings Monthly	2	HRS	$65.00	$130.00
Record Service Meter Readings Monthly	32	HRS	$65.00	$2,080.00
Monthly Leak Detection and Repairs	24	HRS	$65.00	$1,560.00
Monthly Service Meter Calibration	24	HRS	$65.00	$1,560.00
		MONTHLY SUB-TOTAL		$5,330.00
		ANNUAL SUB TOTAL		$63,960.00

Implementing the water loss control program will not be locally cost effective for the City. The monetary benefits of the water loss control program are difficult to estimate as it is currently unknown what percentage of water loss the system is operating at and whether there are any significant leaks within the distribution system.

Energy Conservation during Peak Hours – In addition, by installing the proposed 1.0 million gallon reservoir, it will allow the City to take advantage of time-of-use pumping and reduce or eliminate usage of well pumps during summer period peak hours between May 1st and October 31st from 12:00 pm to 6:00 pm, when electricity costs are at their highest. This will significantly reduce electrical costs by approximately 30%-35%. The estimated energy cost savings during summer period peak hours as a result of the proposed construction of the water storage reservoir and booster pump station is shown in Table 3. (Estimate assumes continuous operation at 1,000 gpm throughout the summer period (May 1st – October 31st))

The project is not locally cost effective on the basis of these energy cost savings of $9,745 is small in comparison to the estimated project capital cost of 2.6 million dollars. However; over the long term, operation of the water storage reservoir and booster pump station during peak hours will significantly reduce energy costs during operations and continue to allow the City to maintain reasonable water rates in the disadvantaged community.

Table 3 – Estimated Energy Conservation during Summer Peak Hours as a Result of Project Construction

	Water Horsepower (WHP)	Energy Demand (kW)	Energy Cost ($/kW-hr)	Energy Cost ($/hr)	Hours per Year	TOTAL COST
Municipal Well to Tank (During Off-Peak Hours)	96	75.0	$0.23	$17.25	774	$13,351.50
Booster Pump Station to System (During Peak Hours)	32	25.1	$0.40	$10.04	774	$7,770.96
Municipal Well to System (During Peak Hours)	123	99.7	$0.40	$39.88	774	$30,867.12
		PROJECTED ANNUAL SAVINGS				$9,744.66
		TOTAL SAVINGS OVER LIFE OF PROJECT (50 YEARS)				$487,233